



SEQUENCE LISTING

<110> HATTORI, NORIAKI
MURAKAMI, SEIJI

<120> LUCIFERASE AND A METHOD FOR DETECTING INTRACELLULAR ATP USING THE SAME

<130> 193582US-3524-7126-0 PCT

<140> 09/581241
<141> 2000-06-26

<150> JP97/361022
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<170> PatentIn version 3.2

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65 70 75 80	
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 65 70 75 80

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ttt agt tct aaa aaa gga tta gat aaa gtt ata act gta caa aaa acg Phe Ser Ser Lys Lys Gly Leu Asp Lys Val Ile Thr Val Gln Lys Thr 130	135	140	432
gta act gct att aaa acc att gtt ata ttg gac agc aaa gtg gat tat Val Thr Ala Ile Lys Thr Ile Val Ile Leu Asp Ser Lys Val Asp Tyr 145	150	155	480
aga ggt tat caa tcc atg gac aac ttt att aaa aaa aac act cca caa Arg Gly Tyr Gln Ser Met Asp Asn Phe Ile Lys Lys Asn Thr Pro Gln 165	170	175	528
ggg ttc aaa gga tca agt ttt aaa act gta gaa gtt aac cgc aaa gaa Gly Phe Lys Gly Ser Ser Phe Lys Thr Val Glu Val Asn Arg Lys Glu 180	185	190	576
caa gtt gct ctt ata atg aac tct tcg ggt tca acc ggt ttg cca aaa Gln Val Ala Leu Ile Met Asn Ser Ser Gly Ser Thr Gly Leu Pro Lys 195	200	205	624
ggg gtg caa ctt act cat gaa aat gca gtc act aga ttt tct cac gct Gly Val Gln Leu Thr His Glu Asn Ala Val Thr Arg Phe Ser His Ala 210	215	220	672
aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 225	230	235	720
act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 245	250	255	768
tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 260	265	270	816
gag act ttt tta aaa aca ctg caa gat tac aaa tgt tca agc gtt att Glu Thr Phe Leu Lys Thr Leu Gln Asp Tyr Lys Cys Ser Ser Val Ile 275	280	285	864
ctt gta ccg act ttg ttt gca att ctt aat aga agt gaa tta ctc gat Leu Val Pro Thr Leu Phe Ala Ile Leu Asn Arg Ser Glu Leu Leu Asp 290	295	300	912
aaa tat gat tta tca aat tta gtt gaa att gca tct ggc gga gca cct Lys Tyr Asp Leu Ser Asn Leu Val Glu Ile Ala Ser Gly Gly Ala Pro			960

305	310	315	320	
tta tct aaa gaa att ggt gaa gct gtt gct aga cgt ttt aat tta ccg				1008
Leu Ser Lys Glu Ile Gly Glu Ala Val Ala Arg Arg Phe Asn Leu Pro				
325	330	335		
ggt gtt cgt caa ggc tat ggt tta aca gaa aca acc tct gca att att				1056
Gly Val Arg Gln Gly Tyr Gly Leu Thr Glu Thr Thr Ser Ala Ile Ile				
340	345	350		
atc aca ccg gaa ggc gat gat aaa cca ggt gct tct ggc aaa gtt gtg				1104
Ile Thr Pro Glu Gly Asp Asp Lys Pro Gly Ala Ser Gly Lys Val Val				
355	360	365		
cca tta ttt aaa gca aaa gtt atc gat ctt gat act aaa aaa act ttg				1152
Pro Leu Phe Lys Ala Lys Val Ile Asp Leu Asp Thr Lys Lys Thr Leu				
370	375	380		
ggc ccg aac aga cgt gga gaa gtt tgt gta aag ggt cct atg ctt atg				1200
Gly Pro Asn Arg Arg Gly Glu Val Cys Val Lys Gly Pro Met Leu Met				
385	390	395	400	
aaa ggt tat gta gat aat cca gaa gca aca aga gaa atc ata gat gaa				1248
Lys Gly Tyr Val Asp Asn Pro Glu Ala Thr Arg Glu Ile Ile Asp Glu				
405	410	415		
gaa ggt tgg ttg cac aca gga gat att ggg tat tac gat gaa gaa aaa				1296
Glu Gly Trp Leu His Thr Gly Asp Ile Gly Tyr Tyr Asp Glu Glu Lys				
420	425	430		
cat ttc ttt atc gtg gat cgt ttg aag tct tta atc aaa tac aaa gga				1344
His Phe Phe Ile Val Asp Arg Leu Lys Ser Leu Ile Lys Tyr Lys Gly				
435	440	445		
tat caa gta cca cct gct gaa tta gaa tct gtt ctt ttg caa cat cca				1392
Tyr Gln Val Pro Pro Ala Glu Leu Glu Ser Val Leu Leu Gln His Pro				
450	455	460		
aat att ttt gat gcc ggc gtt gct ggc gtt cca gat cct ata gct ggt				1440
Asn Ile Phe Asp Ala Gly Val Ala Gly Val Pro Asp Pro Ile Ala Gly				
465	470	475	480	
gag ctt ccg gga gct gtt gta ctt gaa aaa gga aaa tct atg act				1488
Glu Leu Pro Gly Ala Val Val Val Leu Glu Lys Gly Lys Ser Met Thr				
485	490	495		
gaa aaa gaa gta atg gat tac gtt gct agt caa gtt tca aat gca aaa				1536
Glu Lys Glu Val Met Asp Tyr Val Ala Ser Gln Val Ser Asn Ala Lys				
500	505	510		
cgt ttg cgt ggt ggt gtc cgt ttt gtg gac gaa gta cct aaa ggt ctc				1584
Arg Leu Arg Gly Gly Val Arg Phe Val Asp Glu Val Pro Lys Gly Leu				

515

520

525

act ggt aaa att gac ggt aaa gca att aga gaa ata ctg aag aaa cca 1632
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Val Ala Lys Met
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<212> PRT
<213> Luciola lateralis

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Met Glu Asn Met Glu Asn Asp Glu Asn Ile Val Tyr Gly Pro Glu Pro
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Phe Tyr Pro Ile Glu Glu Gly Ser Ala Gly Ala Gln Leu Arg Lys Tyr
20 25 30

Met Asp Arg Tyr Ala Lys Leu Gly Ala Ile Ala Phe Thr Asn Ala Leu
35 40 45

Thr Gly Val Asp Tyr Thr Tyr Ala Glu Tyr Leu Glu Lys Ser Cys Cys
50 55 60

Leu Gly Glu Ala Leu Lys Asn Tyr Gly Leu Val Val Asp Gly Arg Ile
65 70 75 80

Ala Leu Cys Ser Glu Asn Cys Glu Glu Phe Phe Ile Pro Val Leu Ala
85 90 95

Gly Leu Phe Ile Gly Val Gly Val Ala Pro Thr Asn Glu Ile Tyr Thr
100 105 110

Leu Arg Glu Leu Val His Ser Leu Gly Ile Ser Lys Pro Thr Ile Val
115 120 125

Phe Ser Ser Lys Lys Gly Leu Asp Lys Val Ile Thr Val Gln Lys Thr
130 135 140

Val Thr Ala Ile Lys Thr Ile Val Ile Leu Asp Ser Lys Val Asp Tyr
145 150 155 160

Arg Gly Tyr Gln Ser Met Asp Asn Phe Ile Lys Lys Asn Thr Pro Gln
165 170 175

Gly Phe Lys Gly Ser Ser Phe Lys Thr Val Glu Val Asn Arg Lys Glu
180 185 190

Gln Val Ala Leu Ile Met Asn Ser Ser Gly Ser Thr Gly Leu Pro Lys
195 200 205

Gly Val Gln Leu Thr His Glu Asn Ala Val Thr Arg Phe Ser His Ala
210 215 220

Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu
225 230 235 240

Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly
245 250 255

Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu
260 265 270

Glu Thr Phe Leu Lys Thr Leu Gln Asp Tyr Lys Cys Ser Ser Val Ile
275 280 285

Leu Val Pro Thr Leu Phe Ala Ile Leu Asn Arg Ser Glu Leu Leu Asp
290 295 300

Lys Tyr Asp Leu Ser Asn Leu Val Glu Ile Ala Ser Gly Gly Ala Pro
305 310 315 320

Leu Ser Lys Glu Ile Gly Glu Ala Val Ala Arg Arg Phe Asn Leu Pro
325 330 335

Gly Val Arg Gln Gly Tyr Gly Leu Thr Glu Thr Thr Ser Ala Ile Ile
340 345 350

Ile Thr Pro Glu Gly Asp Asp Lys Pro Gly Ala Ser Gly Lys Val Val
355 360 365

Pro Leu Phe Lys Ala Lys Val Ile Asp Leu Asp Thr Lys Lys Thr Leu
370 375 380

Gly Pro Asn Arg Arg Gly Glu Val Cys Val Lys Gly Pro Met Leu Met
385 390 395 400

Lys Gly Tyr Val Asp Asn Pro Glu Ala Thr Arg Glu Ile Ile Asp Glu
405 410 415

Glu Gly Trp Leu His Thr Gly Asp Ile Gly Tyr Tyr Asp Glu Glu Lys
420 425 430

His Phe Phe Ile Val Asp Arg Leu Lys Ser Leu Ile Lys Tyr Lys Gly
435 440 445

Tyr Gln Val Pro Pro Ala Glu Leu Glu Ser Val Leu Leu Gln His Pro
450 455 460

Asn Ile Phe Asp Ala Gly Val Ala Gly Val Pro Asp Pro Ile Ala Gly
465 470 475 480

Glu Leu Pro Gly Ala Val Val Val Leu Glu Lys Gly Lys Ser Met Thr
485 490 495

Glu Lys Glu Val Met Asp Tyr Val Ala Ser Gln Val Ser Asn Ala Lys
500 505 510

Arg Leu Arg Gly Gly Val Arg Phe Val Asp Glu Val Pro Lys Gly Leu
515 520 525

Thr Gly Lys Ile Asp Gly Lys Ala Ile Arg Glu Ile Leu Lys Lys Pro
530 535 540

Val Ala Lys Met
545